

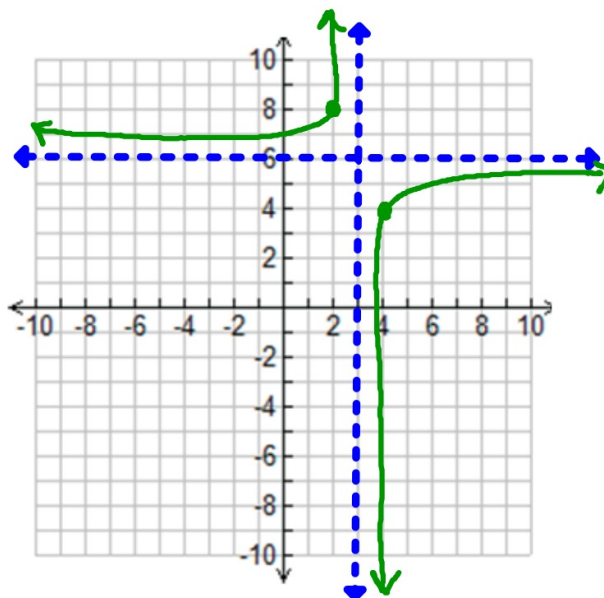
Bellwork: 3/14/13

Graph the following function.

1) $y = \frac{-2}{x-3} + 6$

$(h,k) = (3,6)$

$a = -2$



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Section 8.2 - Finding the equation of a rational graph

Find where the asymptotes intersect...that's (h,k) $y = \frac{a}{x-h} + k$

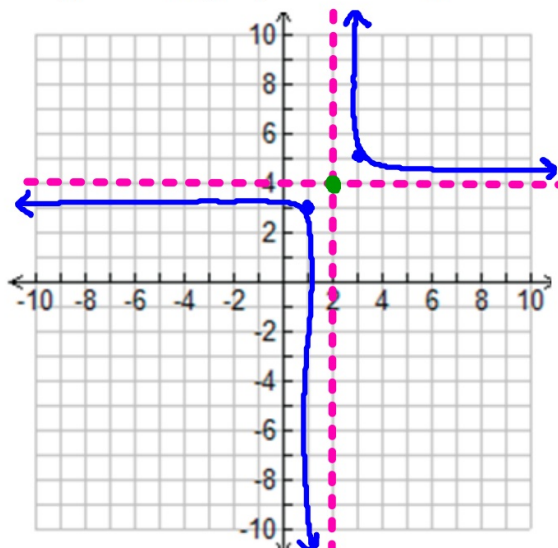
Determine "a" based on the plotted point on each branch.

Remember when "a" is positive, graph is in QI and QIII
when "a" is negative, graph is in QII and QIV

example 1:

$(h,k) = (2,4)$ $a = 1$

$y = \frac{1}{x-2} + 4$



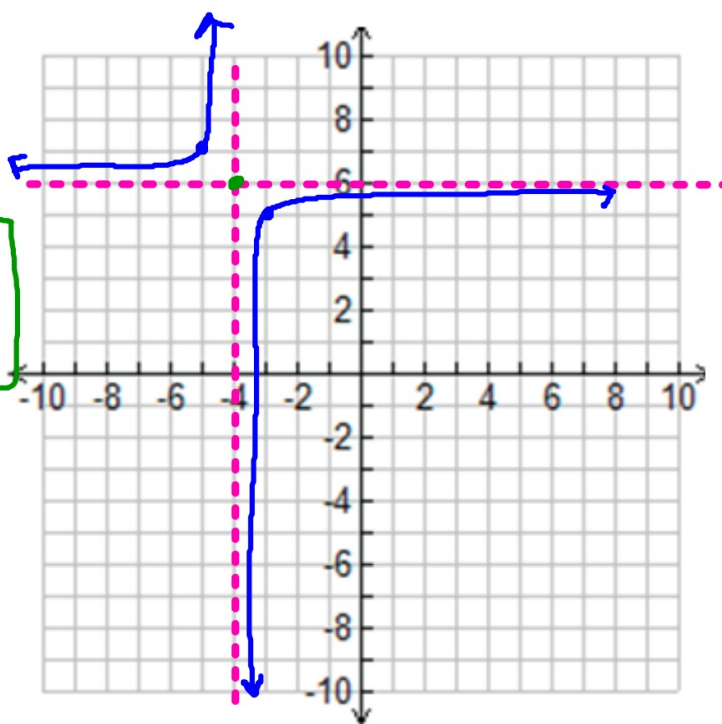
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example 2:

$$(h, k) = (-4, 6)$$

$$a = -1$$

$$y = \frac{-1}{x+4} + 6$$



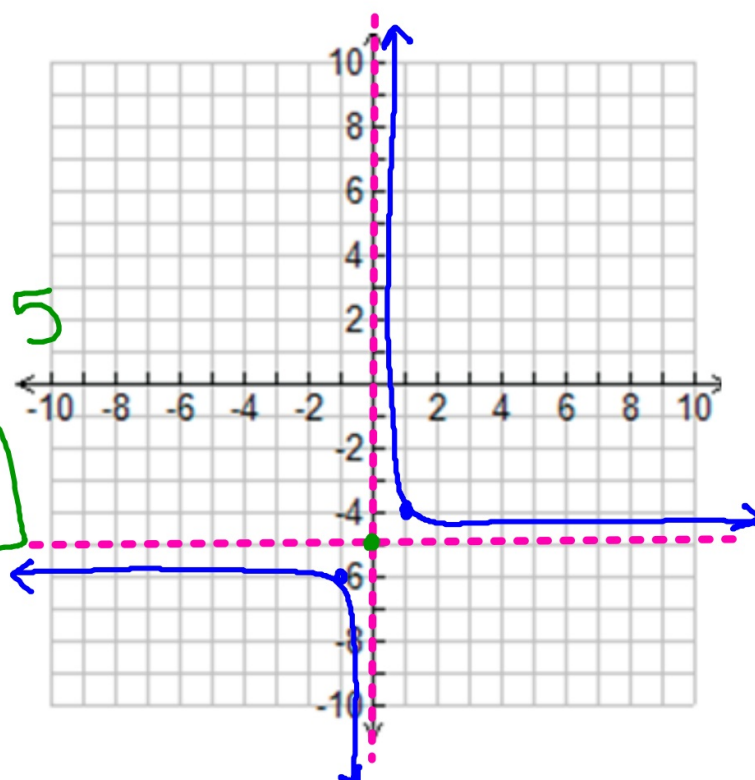
example 3:

$$(h, k) = (0, -5)$$

$$a = 1$$

$$y = \frac{1}{x-0} - 5$$

$$y = \frac{1}{x} - 5$$



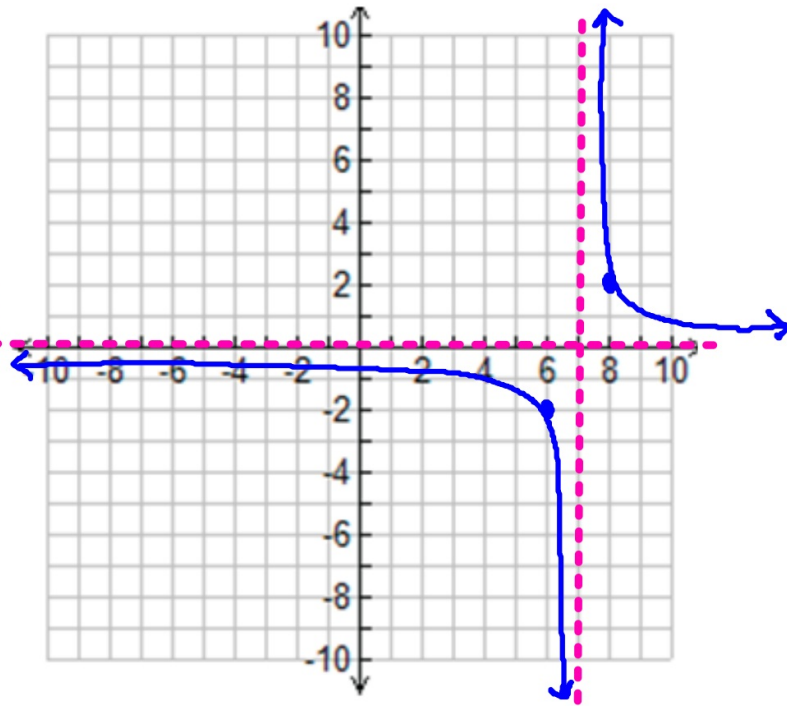
example 4:

$$\begin{matrix} h & k \\ (7, 0) \end{matrix}$$

$$a = 2$$

$$y = \frac{2}{x-7} + 0$$

$$y = \frac{2}{x-7}$$

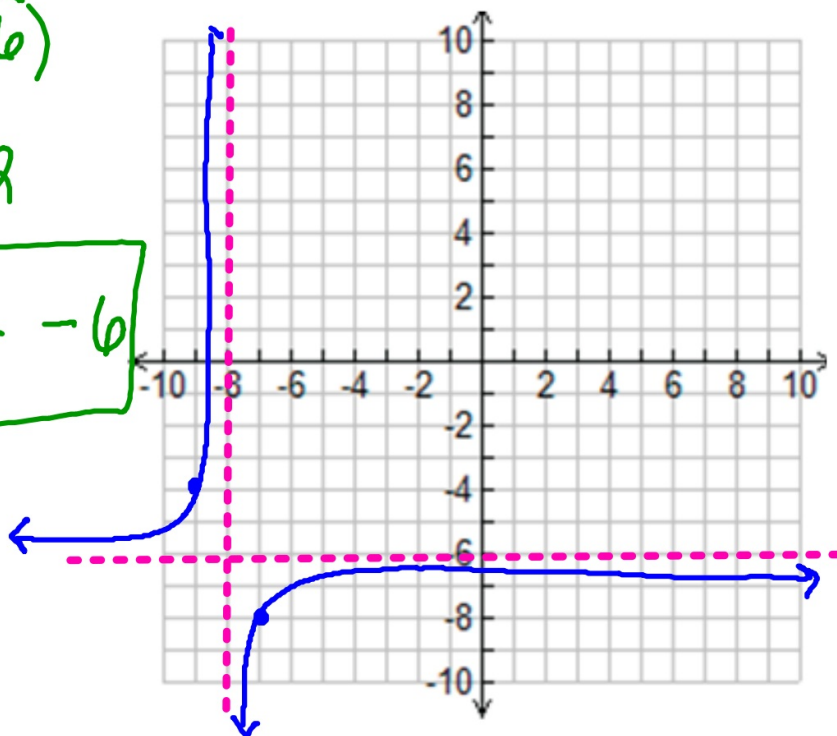


example 5:

$$\begin{matrix} h & k \\ (-8, -6) \end{matrix}$$

$$a = -2$$

$$y = \frac{-2}{x+8} - 6$$

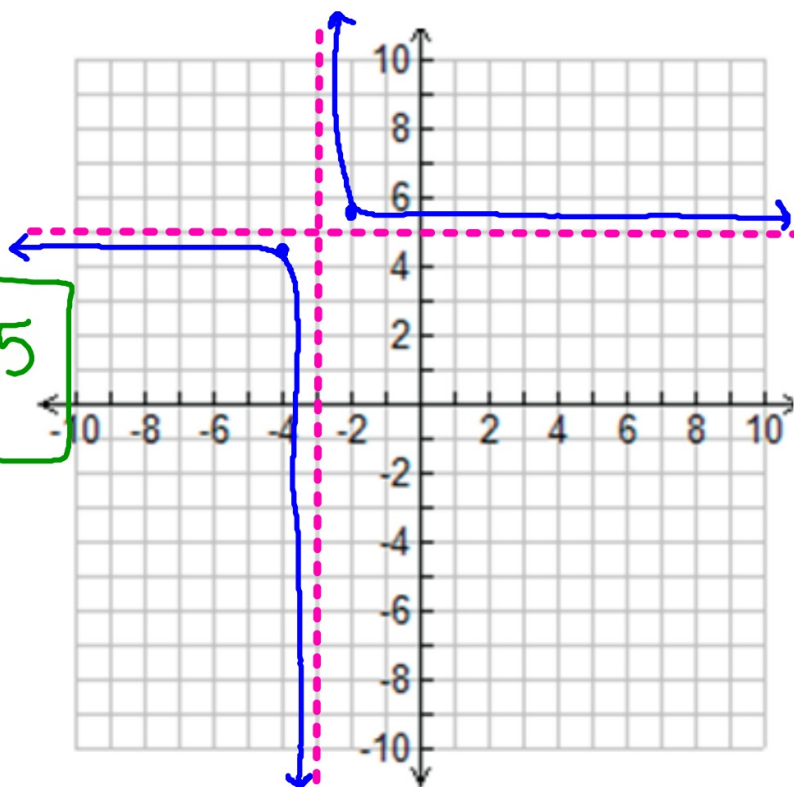


example 6:

$$\begin{matrix} h & k \\ (-3, 5) \end{matrix}$$

$$a = \frac{1}{2}$$

$$y = \frac{1}{2(x+3)} + 5$$



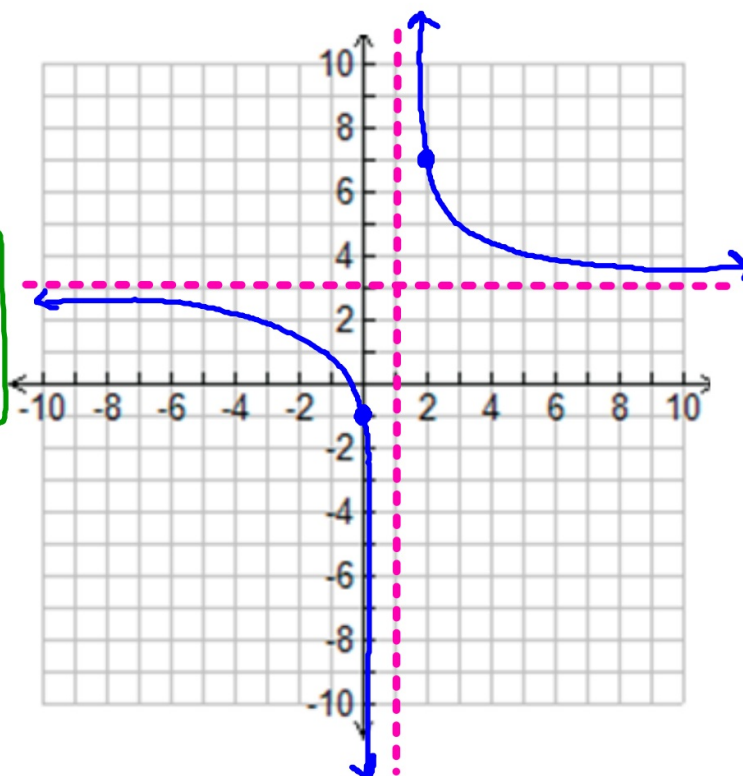
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example 7:

$$\begin{matrix} h & k \\ (1, 3) \end{matrix}$$

$$a = 4$$

$$y = \frac{4}{x-1} + 3$$



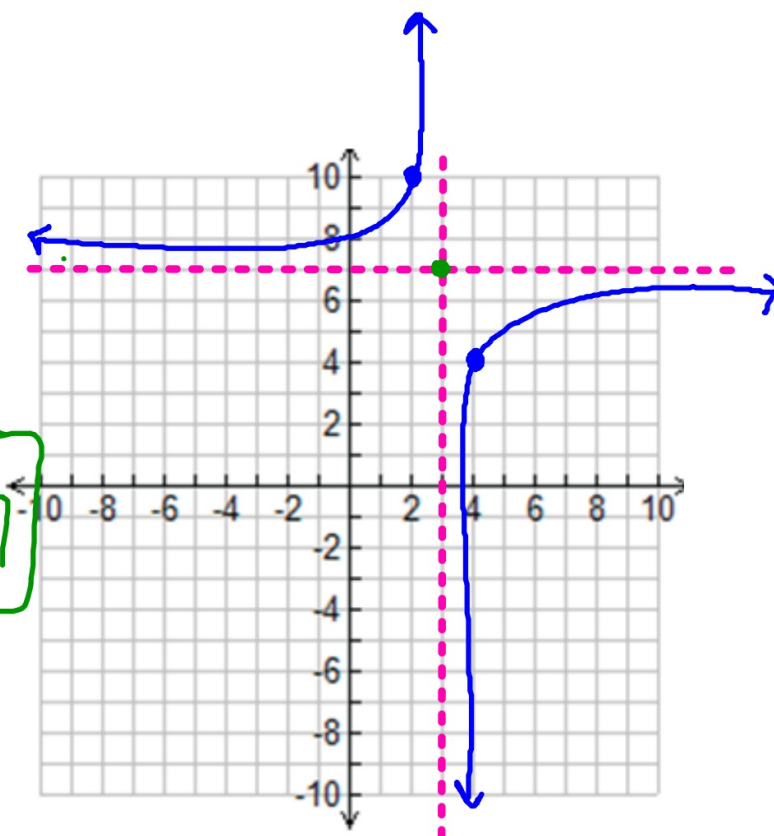
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example 8:

$$\begin{matrix} h & k \\ (3, 7) \end{matrix}$$

$$a = -3$$

$$y = \frac{-3}{x-3} + 7$$



Homework: Worksheet 8.2 - Graphing rational functions

